

ences in the dentition and the colour of the nacre is totally different. The outline is broader than that of *L. consobrina* (Lea), the shell much thinner, the epidermis paler, the pseudo-cardinal teeth smaller and less prominent and the laterals straighter.

The measurements of four shells are as follows:—

	Length.	Height.	Thickness.
1 ..	56·5 mm.	30 mm.	18·7 mm.
2 ..	53·4 mm.	28·6 mm.	18 mm.
3 ..	52 mm.	27·6 mm.	18 mm.
4 ..	51·8 mm.	27·5 mm.	17·8 mm.

“ Not uncommon in shallow muddy bays, many specimens found in damp mud (after a night's light rain) in a drying creek. Some of these were a considerable distance from water, but they were in an active condition. These individuals were observed lying horizontally dorsal side uppermost in shallow and narrow grooves in the mud some four or five inches long and not quite deep enough to contain their shells. Probably they had been buried deeper in the mud and had come to the surface owing to the rain. When placed in a jar of mud they sank to the bottom and there lay horizontally” (*field notes*).

VII. AQUATIC AND SEMI-AQUATIC RHYNCHOTA FROM THE SATARA AND POONA DISTRICTS.

By C. A. PAIVA, Assistant, Zoological Survey of India.

Specimens of the following species were collected by Dr. N. Annandale in the course of his tour:—

FAM. HEBRIDAE.

Hebrus bombayensis, sp. nov.

FAM. HYDROMETRIDAE.

Hydrometra vittata, Stål

Rhagovelia nigricans (Burm.).

Onychotrechus rhexenor, Kirk.

Ptilomera laticaudata (Hardw.).

Metrocoris stali (Dohrn.).

FAM. REDUVIIDAE.

Pirates arcuatus (Stål).

FAM. PELAGONIDAE.

Pelogonus marginatus (Latr.).

FAM. NEPIDAE.

Laccotrephes ruber (Linn.).

Laccotrephes griseus, Guer.

FAM. NAUCORIDAE.

Heleocoris elongatus, Montand.

Heleocoris obliquatus (Spin.).

Naucoris sordidus, Dist.

FAM. NOTONECTIDAE.

Enithares templetoni (Kirby).

Enithares lactea, sp. nov.

FAM. CORIXIDAE.

Corixa hieroglyphica, Duf

Family HEBRIDAE.

Hebrus bombayensis, sp. nov.

(Plate III, fig. 6).

One specimen from surface of a small pool at the edge of the river at Medha, ca. 2,200 feet, Yenna Valley, Satara district, 27-ii-4-iii-1918 and five specimens found running and flying on vertical

rocks covered with damp algae at the edge of a waterfall at Khandalla, ca. 2,500 feet, Poona district, 6-10-iii-1918.

The description is taken from two carded specimens from the latter locality.

Black with greyish-white and golden pubescence; apical margin of head, a spot before each eye and the basal margin more or less greyishly pubescent; antennae ochraceous, apically darker, first joint stout, longest, shorter than any two joints together, second joint shortest, widened at apex and tapering towards base, third and fifth joints subequal, longer than fourth, the three apical joints slender; head slightly tumid above, gently sloping towards the apex; lateral projections at bases of antennae pointed; disk of vertex with two shallow longitudinal grooves united posteriorly and extended as one to basal margin of head; pronotum with two shallow depressions on each anterior lateral area, and a central longitudinal depression on disk; a line of deep punctures on each side of the central depression and also on the basal margin of the pronotum; the depressed portions of the pronotum in fresh specimens are greyishly pubescent; scutellum with its basal area gibbous, beyond which it is foveate as far as apex; a short central longitudinal carina on depressed portion; clavus and corium covered with short golden pubescence; a large subtriangular patch at base of clavus and three spots on membrane arranged in a triangle, white or greyish-white; the outer spot on the membrane transverse, widening inwardly, the other two near the inner margin are rounded; legs ochraceous.

Length 1.75—2 mm.

Type. No. 8048/H.I. in the collection of the Zoological Survey of India.

FAMILY HYDROMETRIDAE.

Hydrometra vittata, Stål.

One specimen from a small pool at the edge of the river at Medha and another from the edge of a waterfall at Khandalla.

A very common species and probably found all over India.

Rhagovelia nigricans (Burm.).

Two apterous specimens from under a rock at the edge of a stream at Khandalla.

As far as the Indian fauna is concerned this species has been recorded from Travancore and Ceylon and it is represented in our collection from Pinjore, Patiala State, base of Simla Hills, W. Himalayas; Tura and Ganool River, Damalgiri, Garo Hills, Assam; Sanjai River, Chakradharpur, Chota Nagpur, 8-10-ii-18, "In large numbers under the shelter of a rock in the stream. N. A." We have also specimens from the mouth of the Jordan, Tiberias, and the plains of Gennesaret, Palestine, collected by Dr. Annandale. It appears to be very widely distributed.

Onychotrechus rhexenor, Kirk.

(Plate III, figs. 8, 8a)

A number of specimens were found running and leaping on vertical rocks covered with damp algae at the edge of a waterfall, and two specimens were taken from a rocky stream at Khandalla.

This species has hitherto been recorded only from S. India: Kanara (*colln.* Distant).

Ptilomera laticaudata (Hardw.).

Three specimens from the surface of small streams at Khandalla.

Metrocoris stali (Dohrn).

A number of specimens from the surface of small pools at the edge of the river at Medha and two from small rocky streams at Khandalla.

This and the preceding species are widely distributed.

Family REDUVIIDAE.

Pirates arcuatus (Stål).

Three specimens from under stones at the edge of a stream, Khandalla.

Not an uncommon species.

Family PELOGONIDAE.

Pelogonus marginatus (Latr.).

One specimen from the edge of a stream at Khandalla. Within our limits the distribution of this species extends from Nepal to Ceylon and from Bombay to Burma.

Family NEPIDAE.

Laccotrephes ruber (Linn.).

One specimen from a small pool at the edge of the river at Medha.

Laccotrephes griseus (Guer.).

One specimen from same position and locality as the last. Both these species have a very wide distribution.

Family NAUCORIDAE.

Heleocoris elongatus, Montand.

A number of specimens from small rocky streams at Khandalla. "Very abundant, running about on and under stones below water and swimming when disturbed. N. A."

Recorded from Paresnath, 2,500 feet, iv-09, Bihar; Mathe-
ran, Bombay and "Indes Orientales." Also obtained by Dr.
Gravely from the following localities in the Bombay Presidency:—
Pophli, Vashishti Valley, Ratnagiri district, c. 400 ft., 1-2-v-
1912; Tambi, Koyna Valley, Satara district, c. 2,100 ft., 24-26-
iv-1912; and Nechal, W. Ghats, Satara district, c. 2,000 ft., 30-
iv-1912.

Heleocoris obliquatus, Montand.

A number of specimens in various stages of development
from small pools at the edge of the river at Medha. Also found
clinging to the lower surface of stones in stream, Sanjai River
Chakradharpur, Chota Nagpur. Previously recorded from Bombay
and Lower Burma. This species was also obtained by Dr.
Gravely at Medha in April, 1912.

Naucoris sordidus, Dist.

A single specimen from a small rocky stream at Khandalla.
This species has been recorded from the Calcutta tanks, and from
Kerumaadi, S. end of Vembanaad Lake, Travancore, 6-xi-08
(N. A.).

Family NOTONECTIDAE.

Enithares lactea, sp. nov.

(Plate III, fig. 7.)

Described from a single specimen from a small pool at the
edge of the river at Medha, Satara district.

Head, pronotum, scutellum and hemelytra milky white;
vertex of head tinged with pale orange yellow, a somewhat large
orange yellow spot just below apical margin of vertex; a faint,
shallow, longitudinal groove within the margin of each eye, not
extending beyond the middle of the vertex; eyes greyish, with
light purplish reflections, converging towards their bases; length
of vertex about equal to its greatest breadth at apex, shorter
than the pronotum, which is shining almost smooth and with a
few, very minute, scattered punctures; foveately excavate an-
terior pronotal angles more or less fuscous; length of pronotum
at centre less than half its greatest breadth; scutellum much
broader at base than long, with a distinct transversely impressed
line near basal margin; corium nearly as long as head, pronotum
and scutellum together; embolium tinged with very pale yellow,
a dull fuscous spot at its basal angle; body beneath dull white;
two small contiguous spots on centre of face, lateral margins of
face below eyes, margins of clypeus, linear markings on trochan-
ters and on the hind femora beneath, and segmental spots on
underside of connexivum dark castaneous; ventral longitudinal
carina of abdomen fringed with long black hairs, a fringe of paler
hairs on lateral margin of abdomen; intermediate femora with a

strong tooth near apex, hind tibiae about twice the length of the hind tarsi, deeply grooved beneath with a fringe of fine black hairs inside groove; hind tarsi also fringed with black hairs beneath.

Type. No. 8064/H.I. in the collection of the Zoological Survey of India.

This species is very closely related to *E. indica* and *E. paivana* from which it differs chiefly in the total absence of any black markings on its upperside; the transversely impressed line near the base of the scutellum is sufficient to differentiate it structurally from any allied form.

Enithares templetoni (Kirby).

Three specimens from small pools at the edge of the river at Medha, and three from small rocky streams at Khandalla. "Dives under water and clings to stones some inches below the surface. N. A." Evidently a very widely distributed species. Represented in the collection of the Zoological Survey of India from various localities in the Western Himalayas, Bombay Presidency, Ceylon and Southern Shan States.

Family CORIXIDAE.

Corixa hieroglyphica, Duf.

A number of specimens from small pools at the edge of the river at Medha.

VIII. SPONGES FROM THE SATARA AND POONA DISTRICTS AND FROM CHOTA (CHUTIA) NAGPUR.

I have already discussed Spongillidae from the Satara district in my paper on the sponges of the Malabar Zone (*Rec. Ind. Mus.* VII, pp. 383-397: 1912) and have referred to specimens from the Poona district in an earlier paper (*ibid.*, VI, pp. 225, 226: 1911); but when I wrote these papers I had not visited the districts myself, and observation of sponges in the natural surroundings is always important. The species that inhabit the beds of rocky streams are of particular interest, and I am now able to compare those that do so at Medha with those found in a very similar stream at Chakradharpur in Chota Nagpur near the centre of Peninsular India. I have not yet found any sponge in a small mountain torrent such as those at Khandalla, in which food is probably deficient; but when these streams are dammed to form ponds in which aquatic vegetation grows up, sponges soon make their appearance.

So far as my experience goes, Spongillidae that grow on the rocks of Indian streams are always encrusting forms. Massive sponges would be in danger of destruction in floods, and although